

**REPORT OF INVESTIGATION INTO MULTIPLE EXCEEDANCES OF
RECEIVING WATER LIMITATIONS AT TEN MONITORING SITES ALONG
SANTA MONICA BAY BEACHES**

April 21, 2008

Prepared in Response to:
RWQCB ORDER PURSUANT TO CALIFORNIA WATER CODE SECTION
13383 (REGARDING VIOLATIONS OF ORDER NO. 01-182 AS AMENDED BY
ORDER NO. R4-2006-0074 AND ORDER NO. R4-2007-0042, NPDES PERMIT
NO. CAS004001, WDID 4B190122002) dated March 4, 2008

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The City of Santa Monica has prepared this report in response to the California Regional Water Quality Control Board (RWQCB) ORDER PURSUANT TO CALIFORNIA WATER CODE SECTION 13383 (REGARDING VIOLATIONS OF ORDER NO. 01-182 AS AMENDED BY ORDER NO. R4-2006-0074 AND ORDER NO. R4-2007-0042, NPDES PERMIT NO. CAS004001, WDID 4B190122002) dated March 4, 2008. This report presents the results of the City of Santa Monica's investigation into the RWQCB notice of multiple exceedances of Receiving Water Limitations (RWLs) for fecal indicator bacteria between September 14, 2006 and October 31, 2006 and between April 1, 2007 and October 31, 2007 at ten shoreline monitoring sites along Santa Monica Bay beaches to which the City of Santa Monica directly or indirectly discharges urban runoff.

Executive Summary

Of the ten shoreline monitoring sites referenced in the Notice of Violation (NOV), five of the sites (SMB 3-01, SMB 3-02, SMB 3-03, SMB 3-04, and SMB 3-05) are located within the city limits of Santa Monica. Four of these sites (SMB 3-01 through SMB 3-04) are operated and maintained by the City of Santa Monica. Site SMB 3-05 is operated and maintained by the County of Los Angeles. The remaining five sites referenced in the NOV are located outside of Santa Monica city limits and are under the primary jurisdiction of either the City of Los Angeles or the County of Los Angeles. Results of the City of Santa Monica's investigation into the reported violations at each of these sites is summarized below.

Sites Operated and Maintained by the City of Santa Monica

SMB 3-01 Montana Avenue

During 2006 this outfall was backfilled with sand between June 5, 2006 and October 13, 2006 and no ponding or flow to the surf zone was observed at this site. However, violations of the 30 day geometric mean limit for Enterococcus were recorded over 26 continuous days between September 18, 2006 and October 13, 2006. The source of these violations is unknown. The city does not have photographic or written records of the condition of the outfall site following the rain event on October 13, 2006, so, it is not known, definitively, if runoff from the outfall reached the surf zone following that event. Based on the fact that the bacterial exceedances did not significantly change in the weeks following October 13, 2006, it is likely that any runoff or ponding that may have been present at the outfall following the rain did not significantly contribute to those exceedances. A low-flow diversion was installed and became operational on July 31, 2007 for this outfall. The violations during the 2007 period were primarily for exceedances of the 30-day geometric mean limit for Enterococcus, at lower levels than were recorded in 2006. Due to the fact that the outfall was backfilled with sand and or was diverted during low-flow periods, the source of the violations during 2007 at this site is also unknown.

SMB 3-02 Wilshire Boulevard

The NOV reports nine violations at this site in 2006 and 16 in 2007. The majority of these were from exceedances of the 30 day geometric mean limit for Enterococcus. All of the violations occurred during a period following the first rain event of the season. Although the City does not have photographic or written records of the condition of the outfall site following the rain events, and it is not known, definitively, if runoff from the outfall reached the surf zone following the rain events, it is possible that the violations are the result of runoff from the outfall following the rain events during each of those years. A low-flow diversion for this outfall was installed and became operational on January 8, 2008.

SMB 3-03 Santa Monica Pier

The NOV reports violations on 236 days during 2006 and 2007 at this site. Investigations have determined that the likely source of the violations was due to persistent ponding adjacent to the outfall beneath the pier (even though there was no surface flow from the pond to the surf zone). Although the Santa Monica Urban Runoff Recycling Facility (SMURRF) treatment plant and a low-flow diversion have been in place at the Pier since 2001, a study commissioned by the City and conducted by PSOMAS beginning in late 2006, determined that there are several inlets to the Pier storm drain downstream from the plant and the diversion. These inlets are the likely source of the ponding. The PSOMAS report recommends: 1) that the City replace the western-most 300 feet of severely corroded corrugated metal pipe located at the end of the Pier storm drain with new reinforced concrete pipe, 2) regrade the ground beneath this pipe to avoid future ponding inside the pipe, and 3) construct a small forebay and pump station under the Pier near the Pier storm drain outlet to collect dry weather runoff entering the storm drain after the diversion structure and pump it back to the SMURRF plant or to the diversion structure. The City of Santa Monica had originally planned to use general fund resources to complete the recommendations as well as upgrades to the SMURRF plant in 2008. However, budget shortfalls during fiscal year 2007-08 made this unfeasible. The City has begun the process to issue municipal bonds to fund these projects and other capital improvement projects identified in the City of Santa Monica Watershed Management Plan (see Appendix 1). These two projects are being given the highest priority amongst urban runoff capital improvement projects by the City and work on these projects is expected to begin during 2009.

SMB 3-04 Pico-Kenter

The NOV reports one violation during 2006 on October 19, 2006 and 14 violations in 2007 between April 24, 2007 and October 30, 2007. All of the violations are for exceedances of the single sample limits for Total Coliform, Fecal Coliform, Enterococcus or the Fecal:Total Coliform ratio. The majority of violations occurred at a time when the outfall was backfilled with sand, the low-flow diversion was operational, and there was no ponding or flow of runoff

to the surf zone. The source of the violations at these times is unknown. Other violations occurred at times when ponding was present following a rain event, but when the low-flow diversion was operational. It is likely that the violation was due to contaminated runoff that remained in the channel or pond created by the rain event in front of the outfall and/or from fecal matter from birds and other animals occupying the tidal pond in front of the outfall.

Sites Operated and Maintained by the City/County of Los Angeles

SMB 2-07 Santa Monica Canyon

A low-flow diversion is in place at this site and was fully operational at the time of all violations reported in the NOV for this site, however, some ponding was present adjacent to the stormdrain outfall. Staff with the City of Los Angeles report that they have not been able to confirm any runoff source downstream of the low-flow diversion. They assume that the source of the ponding is sea water that has overtopped the natural sand berm on the seaward side of the outfall during high tide events. Absent the influx of urban runoff from the storm drain system at this location, the likely source of the bacterial exceedances is from fecal matter from birds and other animals occupying the tidal pond.

SMB 3-05 Ashland Avenue, SMB 3-06 Rose Avenue, and SMB 3-07 Brooks Avenue

The County of Los Angeles is the lead agency with regard to the operation and maintenance of the stormwater systems that drain to these outfalls. No runoff from the City of Santa Monica drains to the Brooks Avenue outfall. All three outfalls have low-flow diversions and the County reports that all of the diversions were operational during the period that violations were reported at each of these sites. The source of the violations at these sites is unknown, but not expected to be related to urban runoff being discharged from the outfall.

SMB 3-08 Windward Avenue

The City of Los Angeles is the lead agency with regard to the operation and maintenance of stormwater systems that drain to this outfall. No runoff from the City of Santa Monica drains to this outfall. This outfall has a low-flow diversion and the City of Los Angeles reports that it was fully operational at the time of the violations. The source of the violations at this site is unknown, but not expected to be related to urban runoff being discharged from the outfall.

SMB BC-01 Ballona Creek

No runoff from within Santa Monica city limits is discharged near the shoreline monitoring location for this site. Dry weather discharge into the Ballona Creek

drainage basin from Santa Monica represents approximately 1% of all flow within this watershed. Runoff from Santa Monica drains towards the east-northeast via sheet flow and via the Pearl Street storm drain outlet of the Centinela sub-watershed basin. The City of Santa Monica constructed a multi-stage treatment train in 2006 to treat dry and wet weather urban runoff from the City of Santa Monica's Centinela sub-watershed, as well as runoff from parts of West Los Angeles, before it enters the Ballona Creek storm drain system. This system became operational in September 2006. The NOV reports violations on seven days in 2006 between September 14 and September 20, 2006. All of these were for exceedances of the 30 day geometric mean limit for Total Coliform. The NOV reports violations on 112 days in 2007 between April 24, 2007 and October 25, 2007. The majority of these violations were for exceedances of the 30 day geometric mean limits for Total Coliform and Fecal Coliform, although there are numerous days, particularly in the period between June 22, 2007 and September 14, 2007 when exceedances for single sample limits for Total Coliform and Fecal Coliform were reported. The exact sources of the violations are not known to the City of Santa Monica. It is likely that there are multiple sources within the watershed originating from potential upstream sources (located in the cities of Beverly Hills, Culver City, Los Angeles and Los Angeles County). Much of this runoff originating upstream that enters the drainage system is untreated.

Background

The City of Santa Monica has been proactively and aggressively working for years to reduce and eliminate sources of contaminated urban runoff reaching the Bay. These actions include:

Structural Actions

- Completion of the Santa Monica Urban Runoff Recycling Facility (SMURRF) in 2001, the first urban runoff treatment facility in the nation
- Installation and maintenance of over 400 catch basin filters and screens throughout the city,
- Installation and maintenance of five Continuous Deflection Separation (CDS) units throughout the city
- Dry weather diversion of the four storm drains operated and maintained by the City of Santa Monica.
- Adoption in 1995 of an ordinance requiring private property owners and developers to install and maintain urban runoff best management practices (BMPs) and reduce runoff from their properties. This ordinance has resulted in the installation of over 1200 BMPs on private property throughout the city as of March 2008.
- Construction of the Mar Vista/Centinela multi-stage treatment train in 2006 to treat dry and wet weather urban runoff from the City of Santa Monica's Centinela sub-watershed, as well as runoff from parts of West Los Angeles, before it enters the Ballona Creek storm drain system
- Installation of a "Green Beach" project which replaced 30,000 sq. ft. of asphalt in a parking lot adjacent to Santa Monica State Beach with a multipurpose, structurally reinforced turf that allows infiltration and treatment of urban runoff.

Non-Structural Actions

- Illicit Discharge, Illicit Connection Program in place since 1991, a program that includes a citywide survey, inspection and permitting of commercial businesses. Permits require prohibitions against non-storm water discharges and implementation of specific urban runoff BMPs
- Completion of illicit connection survey of open storm drain channels and closed storm drain pipes by December of 2006
- Aggressive citywide enforcement of Santa Monica's Water Conservation, Urban Runoff, and Industrial Wastewater Control Ordinances to reduce water wasting, the volume of dry weather runoff, and illicit discharges
- Comprehensive education/pollution prevention programs for both residents and commercial businesses including Clean Bay Restaurant Certification Program and Green Business Certification Programs.
- Santa Monica adopted a Sustainable City Plan in 1994 which set aggressive targets for urban runoff reduction and protection of Santa Monica beaches and the Bay. Data is continuously tracked and is updated annually at www.smepd.org

- Installation of permeable paving in alleyways and along gutters throughout the city to reduce the amount of runoff reaching the storm drain system
- Frequent and consistent street sweeping, catch basin cleaning and BMP maintenance to remove trash and other pollutants from the system upstream from the beach
- Development and adoption by Santa Monica City Council of the Santa Monica Watershed Management Plan in 2006 which presents a long term plan for future actions to aggressively mitigate the impacts of urban runoff generated within Santa Monica (a copy of this plan is included in Appendix 1 of this report)
- In November 2006, Santa Monica voters passed The Clean Beaches and Ocean Parcel Tax (Measure V) which is providing an ongoing source of funding for implementation of the Watershed Management Plan.

A more detailed list of the structural BMPs broken out by sub-watershed, along with a map showing the distribution of BMPs throughout the city is included in Appendix 2 of this report.

Of the ten shoreline monitoring sites referenced in the Notice of Violation (NOV), five of the sites (SMB 3-01, SMB 3-02, SMB 3-03, SMB 3-04, and SMB 3-05) are located within the city limits of Santa Monica. Four of these sites (SMB 3-01 through SMB 3-04) are operated and maintained by the City of Santa Monica. Site SMB 3-05 is operated and maintained by the County of Los Angeles. The remaining five sites referenced in the NOV are located outside of Santa Monica city limits and are under the primary jurisdiction of either the City of Los Angeles or the County of Los Angeles. Figure 1 and Table 1 show the location and lead agency for each of the ten sites.

The City of Santa Monica has obtained data from the City of Los Angeles and the County of Los Angeles regarding the sites located outside of our city limits and under their primary jurisdiction and that information is presented in this report. Please note that because these sites are not under the City of Santa Monica's primary jurisdiction Santa Monica was limited in its ability to obtain all necessary information requested by the RWQCB March 4, 2008 Order. We are, however, committed to take responsibility for the dry weather urban runoff originating from Santa Monica that may discharge at these locations.

Figure 1 – Locations of Shoreline Monitoring Sites

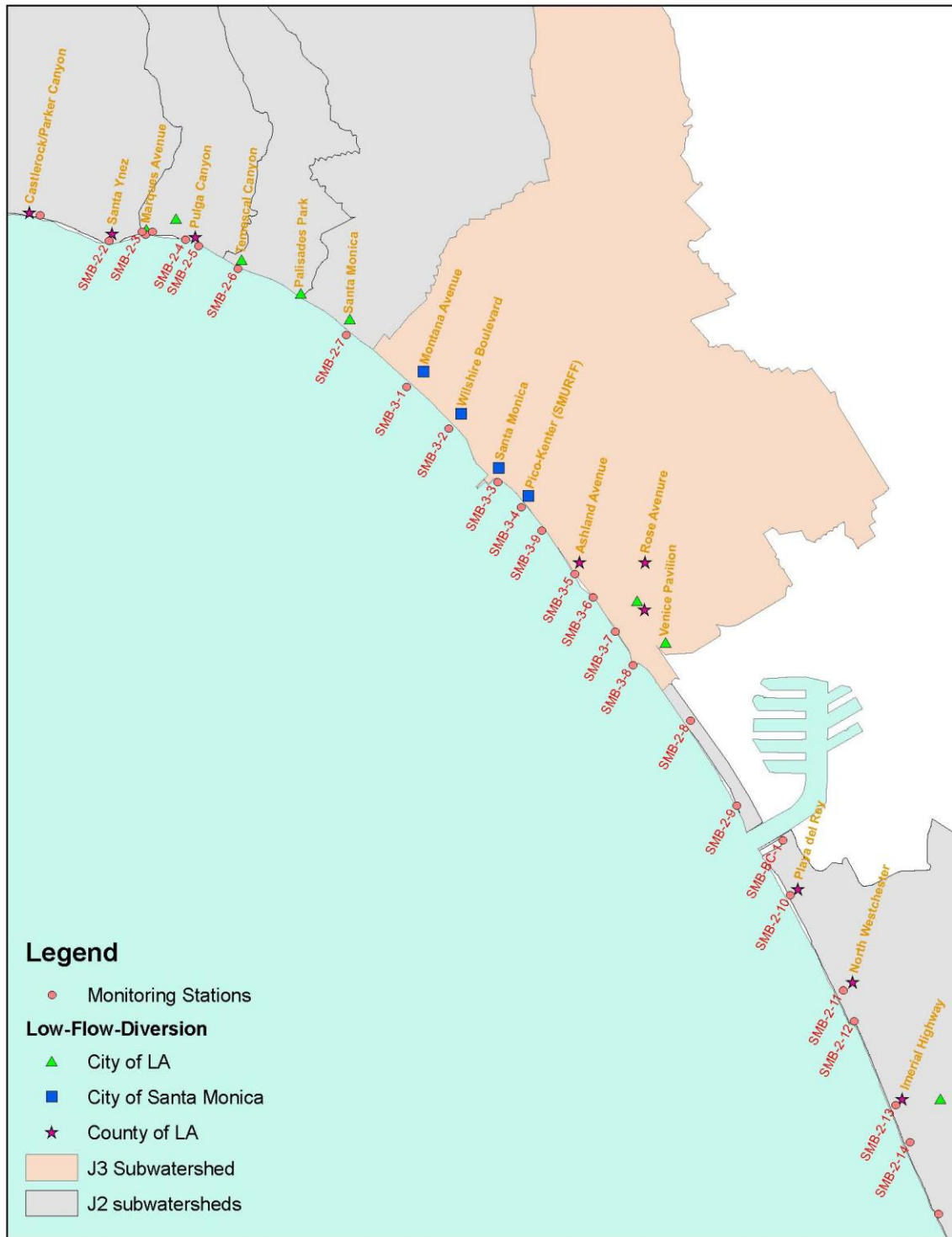


Illustration courtesy of the City of Los Angeles

Table 1 – Shoreline Monitoring Sites

<u>Site</u>	<u>Site Name</u>	<u>Lead Agency</u>
SMB 2-07	Santa Monica Canyon	City of Los Angeles
SMB 3-01	Montana Avenue	Santa Monica
SMB 3-02	Wilshire Blvd	Santa Monica
SMB 3-03	Santa Monica Pier	Santa Monica
SMB 3-04	Pico-Kenter	Santa Monica
SMB 3-05	Ashland Avenue	County of LA
SMB 3-06	Rose Avenue	County of LA
SMB 3-07	Brooks Avenue	County of LA
SMB 3-08	Windward Avenue	City of Los Angeles
SMB BC-01	Ballona Creek	City of Los Angeles

Requested Information for Shoreline Monitoring Sites

Presented below for each of the ten shoreline monitoring sites is the requested information evaluating and documenting to the best extent possible (i) the causes of the violations, (ii) remedial actions taken prior to incorporation of the total maximum daily load (TMDL) summer dry weather requirements into the LA MS4 Permit and those taken since, and, (iii) the City's plans for additional corrective and preventative actions to bring MS4 discharges into compliance with bacterial receiving water limitations (RWLs) for the upcoming dry weather period.

Site SMB 2-07 Santa Monica Canyon

The outfall of this drainage site is located within the City of Los Angeles, and the City of Los Angeles is the lead agency with regards to the operation and maintenance of the storm drain system and diversion in this drainage basin. Dry weather discharge into this drainage basin from Santa Monica flows towards the northwest via surface flow, via the 17th Street storm drain outlet and via the Santa Monica Channel storm drain outlet from the Georgina and San Vicente sub-watershed basins in the City of Santa Monica. These areas are comprised of primarily single family and multi-family residential properties totaling approximately 299 acres. These two sub-watersheds represent approximately 3.4% of the Santa Monica Canyon drainage basin.

The outfall is located on Will Rogers State Beach, immediately west of Pacific Coast Highway at Channel Road. The outfall is approximately 530 feet from the surf zone. The City of Los Angeles completed construction of a low-flow diversion for this storm drain system on June 10, 2003. The diversion is located just northeast of the outfall at 152 W. Channel Road, on the eastern side of Pacific Coast Highway.

The City of Los Angeles reports that the low-flow diversion was fully operational at the time of all violations reported in the NOV for this site. Table 2 includes observations recorded by the City of Los Angeles Environmental Monitoring Division at the storm drain outfall for each of the violation dates.

Table 2 – SMB 2-07 Santa Monica Canyon Observations

Violation Date	Diversion Status	Observation at Outfall
09/15/2006	Fully operational No interruption	Small amount of beach refuse, small amount of ocean debris, large amount of seaweed, moderate amount of tar, ponded, sea conditions waves 1.5 feet height
08/28/2007	Fully operational No interruption	Small amount of beach refuse, small amount of ocean debris, small amount of seaweed, 1 to 5 animals/birds on the shoreline, no flow, sea conditions wave 1.0 feet height
09/08/2007	Fully operational No interruption	Small amount of beach refuse, small amount of ocean debris, small amount of seaweed, ponded, sea conditions waves 2.0 feet height
09/26/2007	Fully operational No interruption	Large amount of beach refuse, moderate amount of ocean debris, moderate amount of seaweed, low-flow, sea conditions waves 2.0 feet height
09/29/2007	Fully operational No interruption	Moderate amount of beach refuse, moderate amount ocean debris, large amount of seaweed, small amount of tar, ponded, storm drain flow reach surf, sea conditions waves 0.5 feet height
10/02/2007	Fully operational No interruption	Large amount of beach refuse, large amount of ocean debris, moderate amount of seaweed, 50 to 100 animals/birds on the shoreline, small amount of excrement, ponded, sea conditions waves 1.0 feet height
10/04/2007	Fully operational No interruption	Moderate amount of beach refuse, large amount of ocean debris, small amount of seaweed, 1 to 5 animals/birds on the shoreline, no flow, sea conditions waves 1.5 feet height
10/11/2007	Fully operational No interruption	Large amount of beach refuse, large amount of ocean debris, small amount of seaweed, ponded, sea conditions waves 1.0 feet height
10/25/2007	Fully operational No interruption	Moderate amount of beach refuse, large amount of ocean debris, small amount of seaweed, heavy foam, ponded, sea conditions waves 2.0 feet height
10/26/2007	Fully operational No interruption	Small amount of beach refuse, moderate amount of ocean debris, small amount of seaweed, ponded, sea conditions waves 1.0 feet height

Source: City of Los Angeles

The observations recorded by City of Los Angeles staff indicate that ponded water was present at the site on seven of the ten days when violations were reported, and that flow from the ponded area reached the surf zone on two of those occasions. Staff with the City of Los Angeles report that they have not been able to confirm any runoff source downstream of the low-flow diversion. They assume that the source of the ponding is sea water that has overtopped the natural sand berm on the seaward side of the outfall during high tide events. Absent the influx of urban runoff from the storm drain system at this location, the

likely source of the bacterial exceedances is from fecal matter from birds and other animals occupying the tidal pond.

As noted above, runoff from the City of Santa Monica represents less than 3.4 % of the total runoff that reaches this outfall site. However, in order to reduce the total amount of runoff entering the drainage basin and to reduce the pollutant load in the runoff, 62 BMPs have been constructed by the City and by private residents (in compliance with a City ordinance) within the sub-watersheds that drain to this basin. These BMPs include catch basin screens and filters, a parkway infiltration zone along San Vicente Boulevard, infiltration pits, and biofilters. The type and distribution of these BMPs are shown in Appendix 2.

Site SMB 3-01 Montana Avenue

This outfall discharges runoff from the Montana sub-watershed, which is located entirely within Santa Monica city limits. Land use in this 625 acre watershed consists primarily of single and multi-family residential properties, with approximately 2% of the land in the sub-watershed occupied by commercial properties. The outfall is located on Santa Monica State Beach approximately 480 feet from the high tide line and approximately 1000 feet southwest of the western terminus of Montana Avenue. The City of Santa Monica is the lead agency with respect to the operation and maintenance of the stormwater system that drains to this outfall. All runoff from this sub-watershed flows to the outfall in a southwesterly direction from the Montana Avenue storm drain outlet, which travels from the bluffs at the western terminus of Montana Avenue beneath Pacific Coast Highway and terminates at the outfall on the beach (see Figure 1 above).

Construction of a low-flow diversion of the Montana Avenue storm drain outlet and installation of a large scale CDS unit in Palisades Park (on the bluff adjacent to the western terminus of Montana Avenue) was completed and operational on July 31, 2007. This new system has been in continuous operation since that time. Prior to installation of that diversion, urban runoff from the basin flowed to the outfall at the beach. Due to the low volume of urban runoff generated within the Montana sub-watershed during dry weather periods and to the considerable distance from the outfall to the shoreline, runoff during dry weather periods rarely reached the surf zone during the period prior to the construction. On June 5, 2006, the outfall was completely backfilled with sand and no ponding of water or flow to the surf zone was observed at the outfall between that date and October 13, 2006 when runoff related to a rain event that day reopened the channel at the outfall. During 2007, the outfall was backfilled with sand on June 20, 2007 and no ponding of water or flow to the surf zone was observed at the outfall between that date and September 22, 2007 when runoff related to a rain event that day reestablished flow at the outfall.

The NOV reports 44 continuous violations between September 18, 2006 and October 31, 2006; one violation on April 2, 2007; and 22 additional violations between August 20, 2007 and October 29, 2007. With regard to the violations recorded in 2006, as noted above, the outfall was backfilled with sand and no ponding or flow to the surf zone was observed until October 13, 2006 at this site. Due to the lack of flow from the outfall between September 18, 2006 and October 12, 2006, the source of the violations during that period at this site is unknown. The city does not have photographic or written records of the condition of the outfall site following the rain event on October 13, 2006 so, it is not known, definitively, if runoff from the outfall reached the surf zone following that event, however, based on the fact that the bacterial exceedances did not significantly change in the weeks following October 13, 2006 it is likely that any runoff or ponding that may have been present at the outfall following the rain did not significantly contribute to those exceedances. The violations for the entire period between September 18, 2006 and October 31, 2006 were for exceedances of the 30-day geometric mean limits for Enterococcus, and no spikes in bacterial counts were detected following the rain event, indicating that contaminated flow was not the cause of the violations.

With regard to the violations recorded in 2007, as noted above, the outfall was backfilled with sand between June 20, 2007 and September 22, 2007 and no ponding of flow was present during that period. In addition, the Montana Avenue low-flow diversion was continuously operational beginning on July 31, 2007 through the end of the period. The violations during the 2007 period were primarily for exceedances of the 30-day geometric mean limit for Enterococcus, at lower levels than were recorded in 2006. Due to the fact that the outfall was backfilled with sand and or was diverted during low-flow periods, the source of the violations during 2007 at this site is also unknown.

As noted above, runoff generated during dry weather periods is relatively minor within the Montana sub-watershed and rarely resulted in discharge to the surf zone at this location in the past. However, in order to reduce the total amount of runoff reaching the outfall and to reduce the pollutant load in the runoff, 274 BMPs have been constructed by the City and by private residents (in compliance with a City ordinance) within the Montana sub-watershed. These BMPs include catch basin screens and filters, a large infiltration system at 415 Pacific Coast Highway, infiltration pits, permeable paving, cisterns and bio-filters. The type and distribution of these BMPs are shown in Appendix 2.

Site SMB 3-02 Wilshire Boulevard

This outfall discharges runoff from the Wilshire sub-watershed which is entirely located within Santa Monica city limits. Land use in this 587 acre watershed consists primarily of multi-family residential properties, with approximately 6% of the land in the sub-watershed occupied by commercial properties. The outfall is located on Santa Monica State Beach approximately 480 feet from the high tide

line and approximately 900 feet southwest of the western terminus of Wilshire Boulevard. The City of Santa Monica is the lead agency with respect to the operation and maintenance of the stormwater system that drains to this outfall. All runoff from this sub-watershed flows in a southwesterly direction, traveling from the bluffs at the western terminus of Wilshire Boulevard beneath Pacific Coast Highway and terminating at the outfall on the beach.

Construction of a low-flow diversion for the Wilshire sub-watershed and installation of a large scale CDS unit in Palisades Park (on the bluff adjacent to the western terminus of Wilshire Boulevard) was completed and operational on January 8, 2008. This new system has been in continuous operation since that time. Prior to installation of that diversion, urban runoff from the basin flowed to the outfall at the beach. Due to the low volume of urban runoff generated within the Wilshire sub-watershed during dry weather periods and to the considerable distance from the outfall to the shoreline, runoff during dry weather periods never reached the surf zone during the period prior to the construction. On June 5, 2006 the outfall was completely backfilled with sand (at the same time that the Montana Avenue outfall was backfilled) and no ponding of water or flow to the surf zone was observed at the outfall between that date and October 13, 2006 when runoff related to a rain event that day reopened the channel at the outfall. During 2007, the outfall was backfilled with sand on June 20, 2007 and no ponding of water or flow to the surf zone was observed at the outfall between that date and September 22, 2007 when runoff related to a rain event that day reestablished ponding at the outfall.

The NOV reports nine continuous violations between October 23, 2006 and October 31, 2006; one violation on July 2, 2007; and 16 additional violations between October 9, 2007 and October 31, 2007. With regard to the violations recorded in 2006, the City does not have photographic or written records of the condition of the outfall site following the rain event on October 13, 2006 so, it is not known, definitively, if runoff from the outfall reached the surf zone following that event. It is possible that the violations are the result of runoff from the outfall following the rain event earlier in the month. This is unlikely due to the fact that runoff rarely reaches the surf zone at this site even during wet weather periods, due to the distance of the outfall from the surf zone and the configuration of the beach in this area. The violations for the entire period between October 23, 2006 and October 31, 2006 were primarily for exceedances of the 30-day geometric mean limits for Enterococcus, with one single sample exceedance for Fecal Coliform and Fecal:Total Coliform ratio reported on October 23, 2006.

With regard to the violations recorded in 2007, as noted above, the outfall was backfilled with sand between June 20, 2007 and September 22, 2007 and no ponding or flow was present during that period. The city does not have photographic or written records of the condition of the outfall site following the rain event on September 22, 2007 so, it is not known, definitively, if runoff from the outfall reached the surf zone following that event. It is possible that the

violations are the result of runoff from the outfall following the rain event in September. However, this is unlikely because runoff rarely reaches the surf zone during wet weather periods, as noted above. The violations for the entire period between October 17 and October 31, 2007 were for slight exceedances of the 30-day geometric mean limits for *Enterococcus*. The other two exceedances during 2007, on July 7, 2007 and October 9, 2007 were for slight exceedances of single sample limits for *Enterococcus*. As noted above, the outfall was backfilled with sand between the months of June and September and no ponding or flow was present during that time.

Runoff generated during dry weather periods is relatively minor within the Wilshire sub-watershed and rarely resulted in discharge to the surf zone at this location in the past. However, in order to reduce the total amount of runoff reaching the outfall and to reduce the pollutant load in the runoff, 102 BMPs have been constructed by the City and by private residents (in compliance with a City ordinance) within the Wilshire sub-watershed. These BMPs include catch basin screens and filters, infiltration pits, permeable paving, cisterns and bio-filters. The type and distribution of these BMPs are shown in Appendix 2.

SMB 3-03 Santa Monica Pier

This outfall discharges runoff from the Pier sub-watershed which is entirely located within Santa Monica city limits. Land use in this 84 acre sub-watershed in the downtown portion of the city consists primarily of commercial properties, with approximately 9% of the land in the sub-watershed occupied by multi-family residential properties. The outfall is located on Santa Monica State Beach beneath the Santa Monica Pier approximately 190 feet east from the high tide line. The City of Santa Monica is the lead agency with respect to the operation and maintenance of the stormwater system that drains to this outfall. All runoff from this sub-watershed flows to the outfall in a southwesterly direction from the SM Pier storm drain outlet, which is a brick arch storm drain located underground to the south of the Pier vehicle and pedestrian ramp. Dry weather flows through this storm drain an average of approximately 40,000 gallons per day (gpd) with peak flow estimated at 50,000 gpd. A four-inch line diverts low-flow urban runoff from the Pier storm drain to the Santa Monica Urban Runoff Recycling Facility (SMURRF), which is located immediately adjacent to and south of the Pier ramp. The SMURRF, which was completed in February 2001 and is designed to treat up to 500,000 gallons per day of urban runoff, receives runoff from both the Pier storm drain and the Pico-Kenter storm drain, which is located approximately 1,500 feet south of the Pier.

Any water that bypasses the SMURRF diversion is captured by a CDS unit (installed in 2000) that is located beneath a parking lot between Appian Way and Ocean Front Walk approximately 300 feet south of the Pier ramp. The CDS unit removes trash, sediments, and free oil and grease from the runoff before it continues down to the storm drain outfall. Below the CDS unit another four-inch

pipe diverts low-flow urban runoff to the sanitary sewer. This diversion is located at Ocean Front Walk, approximately 300 feet south of the Pier ramp and west of the CDS unit. Any water that bypasses this second diversion continues to the storm drain outfall beneath the Pier.

Runoff collected in the parking lot north of the Pier is pumped from a sump in the parking lot to the Pier storm drain at the location of the diversion to the sanitary sewer. However, recent investigation of this system indicated that any water flowing through this line bypasses the diversion and continues down the Pier storm drain. There is also a 24" concrete pipe that connects to the Pier storm drain downstream of all of the diversions. This pipe drains the hardscape areas north and east of the Pier.

In 2007, the City of Santa Monica received a Request for Investigation of Water Quality Exceedances at Santa Monica Pier Pursuant to California Water Code Section 13267 dated March 21, 2007 from the RWQCB. The exceedances in that request covered the period July 15, 2006 through October 27, 2006. The City's response to that request dated April 30, 2007 contains the results of our investigation of the exceedances and a proposed plan of action to address them, and is included in Appendix 3 of this report. Some of the data presented in that letter is summarized below.

During 2006, there were multiple exceedances of the water quality objectives for samples obtained at SMB 3-3 between July 15, 2006 and October 31, 2006. While the period covered by the NOV begins on September 14, 2006, summaries of the earlier violations are included below to provide additional background. It is important to note that although there was ponded water adjacent to the end of the Pier storm drain outfall during part of the monitoring period, at no time during this period was there water flowing from the storm drain directly into the surf zone. During this time the western edge of the pond was no closer than 30 feet east of the high tide line.

- **July 2006** – pond was present between the storm drain outfall and the surf zone. There were 10 days of exceedances during this period. The City contracted with the non-profit group Heal the Bay to complete a bacterial source identification study and sampling for that study was initiated during this period (see below). There were no rain events during this period.
- **August 2006** – the pond was present. There were 10 days of exceedances. There were no rain events during this month.
- **September 2006** – the pond was completely drained via pumping to the sanitary sewer on September 25-26. The pond area was backfilled with clean sand on September 27 and the drain outfall was completely blocked. There were five exceedances during this month, with most of

them occurring prior to the pond being pumped out. However, there was one exceedance on September 27 which occurred after the pond had been pumped out and backfilled with sand. There were no rain events during this month.

- **October 2006** – the pond reappeared in early October and was completely drained via pumping to the sanitary sewer on October 3-4. There was no rain event prior to the pond reappearing, indicating that the source of the pond was from urban runoff from the Pier storm drain that had bypassed the SMURRF and sewer diversions and seeped out of the blocked outfall. There were a total of nine exceedances during the month, with the first occurring on October 4, while the pond was being pumped. There was a rain event of 0.34 inches on October 13. There were no exceedances on October 13, 14, or 15 following the rain and there was no significant ponding beneath the Pier following the rain event.

In addition to the pumping of the ponded area beneath the Pier, City crews have been pumping out any water that collects in the corrugated metal storm drain line downstream of the diversions. Crews have been monitoring this on a continuous basis since October 2006. This action has alleviated the continuous presence of ponded water beneath the Pier since that time. Table 3 lists the dates that ponded water adjacent to the Pier storm drain outfall was pumped between October 2006 and present.

Table 3 – Dates of Removal of Ponded Water Beneath the SM Pier

<u>2006</u>	<u>2007</u>	<u>2008</u>
10/10/06	1/08/07	1/17/08
10/25/06	2/13/07	1/28/08
11/13/06	4/24/07	2/13/08
11/28/06	6/18/07	2/26/08
12/04/06	7/26/07	
12/11/06	8/28/07	
12/19/06	9/26/07	
	10/15/07	
	11/07/07	
	12/11/07	

During 2007, violations were recorded on 192 days between April 3, 2007 and October 31, 2007 at the Pier site. These violations were primarily for exceedances of single sample and 30-day geometric mean limits for Fecal Coliform as well as exceedances of the Fecal:Total Coliform ratio limit. Significant spikes in bacterial levels were observed on the following days: April 24, May 16 to 18, June 23, June 26 to 30, July 11, July 14, July 17 and 18, July

20, July 27, August 1, August 11, August 15, August 31, September 11 through 15, September 20, September 26 through 29, October 3, October 10, October 23, October 25 through 27 and October 30. Many of these dates correspond to periods when ponded water was present beneath the Pier, prior to it being pumped out. Although the ponded water was not flowing into the surf zone at any time during this period, the ponded water is a potential source of the violations. Other potential sources include fecal matter from the birds that congregate and roost beneath the pier, or from other animals and/or humans.

Report of Findings of Heal the Bay Study

In July 2006, the City of Santa Monica contracted with the non-profit group Heal the Bay to conduct a bacterial source identification study beneath and adjacent to the Santa Monica Pier. A copy of Heal the Bay's study is included as Appendix 4 to this report. The study was commissioned in response to high levels of bacteria encountered at SMB 3-3 during the spring and early summer of 2006. The study was designed to determine if fecal bacterial sources were offshore or onshore, were related to tidal cycle or current direction, and/or were localized near the storm drain, leaky pipes, bird populations, or other sources. The study was conducted between July 10, 2006 and August 10, 2006 and involved sampling ocean water from ten sites under and adjacent to the Pier three times per week for each of the five weeks of the study period. All samples were analyzed for Total Coliform, *E. Coli*, and Enterococcus. During the sampling period, a large area of ponded water existed at the end of the Pier storm drain outfall beneath the southern portion of the Pier. This pond extended to within approximately 30 feet of the mean high tide line.

The study did not definitively determine the source of the fecal bacteria in the surf zone near the Santa Monica Pier but suggests that the predominate source was the pond at the end of the storm drain outfall. Samples of sand taken between the surf zone and the edge of the pond also contained high levels of bacteria. These results suggest that the sand is a potential sink for fecal bacteria in the area near the pond.

Heal the Bay recommended draining the pond and eliminating all future dry weather runoff beneath the Pier through diversions, either to the SMURRF or the sanitary sewer. Other recommendations included: spiking roosting perches above the intertidal zone under the Pier; continuing to deter the homeless from taking residence under the pier; continue compliance assurance and enforcement against Pier tenants that discharge nuisance runoff; take steps to eliminate all leaks from beneath the Pier; and request that lifeguards post beach warning signs up to 100 yards from the Pier until the bacterial issues are resolved. All of these recommended actions (with the exception of spiking bird perches) have either been completed or are being pursued by the City. The City has investigated the feasibility of spiking bird perches beneath the Pier on several occasions. Due to the size and complexity of the sub-structure of the

Pier, spiking of this area is neither economically feasible nor likely to be effective at controlling the roosting of birds in this area.

Starting in Fall 2007 the City initiated a pilot program to control the population of pigeons living under the Pier. A feeding station was installed beneath the Pier that provides treated bird feed which decreases the hatchability of pigeon eggs during their reproductive season. The effects are fully reversible and have been shown to have no impact on non-target birds. This type of program has proven effective at controlling pigeons in other urban areas in the United States and abroad. The City plans to evaluate the effectiveness of the pilot through the end of 2008, and, if it proves an effective solution, will likely expand the scope of the program. In the coming year, the City also plans to implement a program to educate the public about the connection between birds and poor water quality around the pier. Educational information will be disseminated to employees and visitors to the Pier and surrounding areas to explain why birds should not be fed, and how feeding them encourages growing populations and poor water quality. The City is also investigating the feasibility of implementing a ban on the feeding of birds in certain public areas near the Pier.

Report of Findings of System-Wide Analysis of SMURRF and Pier Diversion

The City of Santa Monica contracted with the engineering consulting firm PSOMAS to conduct an operational assessment of the SMURRF following its initial five years of operation. A copy of the PSOMAS report dated March 2007 is included as Appendix 5 to this report. The report identifies a number of operational issues and provides recommended actions to improve operation of the SMURRF. Relevant to the bacterial exceedances at the Pier, the report notes that “the existing Pier Storm Drain diversion structure may be undersized.”

The City subsequently contracted with PSOMAS to complete a site-specific study of the Pier storm drain to evaluate the diversions to both the SMURRF and to the sanitary sewer and to make additional recommendations necessary to prevent dry weather runoff from ponding at the storm drain outfall. A copy of the PSOMAS Report dated October 4, 2007 detailing those recommendations is included as Appendix 6 to this report.

The PSOMAS study of the Pier storm drain concluded that the current diversion structure is working properly and diverting all dry weather flows to the sanitary sewer. However, the study found that five connections or inlets to the Pier storm drain exist downstream of the diversion structure and that the ponding is likely caused from runoff that enters the storm drain through these post-diversion inlets and/or from tidal influence. The report recommends: 1) that the City replace the western-most 300 feet of severely corroded corrugated metal pipe located at the end of the Pier storm drain with new reinforced concrete pipe, 2) regrade the ground beneath this pipe to avoid future ponding inside the pipe, and 3) construct a small forebay and pump station under the Pier near the Pier storm drain outlet

to collect dry weather runoff entering the storm drain after the diversion structure and pump it back to the SMURRF plant or to the diversion structure.

The City of Santa Monica had originally planned to use general fund resources to complete the recommendations as well as upgrades to the SMURRF plant in 2008. However, budget shortfalls during fiscal year 2007-08 made this unfeasible. The City has begun the process to issue municipal bonds to fund these projects and other capital improvement projects identified in the City of Santa Monica Watershed Management Plan (see Appendix 1). These two projects are being given the highest priority amongst urban runoff capital improvement projects by the City and work on these projects is expected to begin during 2009.

In order to reduce the total amount of runoff reaching the outfall and to reduce the pollutant load in the runoff, 26 BMPs have been constructed by the City and by private residents (in compliance with a City ordinance) within the Pier sub-watershed. These BMPs include catch basin screens and filters, infiltration pits, permeable paving, cisterns and bio-filters. The type and distribution of these BMPs are shown in Appendix 2.

SMB 3-04 Pico-Kenter

This outfall discharges runoff from the Kenter Canyon, Pico-CalTRANS, and Pico-4th sub-watershed basins, located within Santa Monica city limits, as well as runoff from the Kenter Canyon watershed located to the north and east of Santa Monica in the City of Los Angeles. The total land area that drains to this outfall is 6,658 acres. The total area of the three sub-watersheds located in Santa Monica that drain to this outfall is 4,228 acres. Land use in the Santa Monica sub-watersheds is a mix of single- and multi-family residential, commercial and light industrial. Land use in the Los Angeles sub-watershed is a mix of single and multi-family residential and commercial. The outfall is located on Santa Monica State Beach to the west of the western terminus of Pico Boulevard and approximately 600 feet east from the high tide line. The City of Santa Monica is the lead agency with respect to the operation and maintenance of the stormwater system that drains to this outfall. All runoff from the sub-watersheds feeding this site flow in a southwesterly direction to the Pico-Kenter-CalTRANS storm drain outlet located beneath Pico Boulevard. Dry weather flows through this storm drain average approximately 225,000 gpd with peak flow estimated at 450,000 gpd.

Located within the Pico Kenter storm drain is a concrete berm that diverts urban runoff to a low flow diversion storm drainpipe that connects to a CDS unit and the Pico Kenter pump vault. Within the pump vault are two pumps that pump runoff through a distribution line that connects to SMURRF. Urban runoff pumped through the distribution line is ultimately discharged into the SMURRF influent tank and then treated. After treatment, runoff is discharged into the SMURRF

effluent tank where it is pumped through a distribution line system and used at various locations throughout the city. In rare cases, if the concrete berm is unable to handle excessive flows of urban runoff, runoff will discharge to the storm drain channel. The SMURRF, which was completed in February 2001 and is designed to treat up to 500,000 gallons per day of urban runoff, receives runoff from both the Pier storm drain and the Pico-Kenter storm drain.

The Pico-Kenter storm drain outfall was completely backfilled with sand on May 27, 2006 and no ponding of water or flow to the surf zone or was observed at the outfall between that date and October 13, 2006 when runoff related to a rain event that day reopened the channel at the outfall. During 2007, the outfall was backfilled with sand on June 14, 2007 and no ponding of water or flow to the surf zone was observed at the outfall between that date and September 22, 2007 when runoff related to a rain event that day reestablished flow at the outfall. Dates that the SMURRF plant was non-operational are shown below in Table 4.

Table 4 – Dates of Non-Operation of SMURRF Plant

Date of Non-Operation	Reason
<u>2006</u>	
7/20/06	Equipment repairs
7/25/06 – 7/27/06	Equipment repairs
8/30/06	System maintenance and full recovery cleaning
9/13/06 – 10/3/06	Diesel spill in upstream catch basin required shutdown for cleaning
10/24/06 – 10/25/06	System maintenance and full recovery cleaning
<u>2007</u>	
4/2/07 – 4/6/07	System maintenance and full recovery cleaning
4/9/07 – 4/12/07	Equipment repairs
5/16/07 – 5/18/07	System maintenance and full recovery cleaning

Please note that at all times while the SMURRF was offline, the Pico-Kenter pumps remained in operation during dry weather periods and dry weather flow continued to be pumped to SMURRF's influent tank. There was no discharge of runoff to the Bay as a result of the SMURRF being offline on the dates listed above. All overflow from the influent tank during this period was discharged to the sanitary sewer system.

The NOV reports one violation during 2006 on October 19, 2006 and 14 violations in 2007 between April 24, 2007 and October 30, 2007. All of the violations are for exceedances of the single sample limits for Total Coliform, Fecal Coliform, Enterococcus or the Fecal:Total Coliform ratio.

The violation on October 19, 2006 took place following a rain event on October 13, 2006, which opened the channel from the outfall to the surf zone. On that date, the low-flow diversion of runoff to the SMURRF was operational, so it is likely that the violation was due to either fecal matter from birds and other animals occupying the tidal pond in front of the outfall and/or from contaminated runoff related to the rain event that may have remained in the channel or pond.

The violations on April 24 and 25, 2006 occurred at a time when the low-flow diversion was operational but before the period when the outfall was backfilled with sand. Absent the influx of urban runoff from the storm drain system at this location, the likely source of the violations is from fecal matter from birds and other animals occupying the tidal pond in front of the outfall.

As noted above, the outfall was completely backfilled with sand from June 14, 2007 through September 22, 2007. During that period, violations are reported on June 20, June 30, July 6, August 16, and August 18. Due to the facts that the outfall was backfilled with sand, all dry weather flow was diverted to SMURRF and there was no ponding during this period, the source of these violations is unknown.

The remaining violations in 2007 occurred over seven days between September 28, 2007 and October 30, 2007. During this period the low-flow diversion was completely operational, however the pond and channel had been reestablished in front of the outfall by a rain event on September 22, 2007. Absent the influx of urban runoff from the storm drain system at this location, the likely source of the violations is from fecal matter from birds and other animals occupying the tidal pond in front of the outfall and/or from contaminated runoff related to the rain event that may have remained in the channel or pond.

In order to reduce the total amount of runoff reaching the outfall and to reduce the pollutant load in the runoff, 445 BMPs have been constructed by the City and by private residents (in compliance with a City ordinance) within the Kenter Canyon, Pico-CalTRANS, and Pico-4th sub-watersheds. These BMPs include large infiltration projects at the Big Blue Bus yard and Virginia Avenue Park, catch basin screens and filters, CDS units, infiltration pits, permeable paving, permeable parking lots, cisterns and bio-filters. Another large infiltration and treatment project is planned for the Civic Center area and is expected to be completed in 2011. The type and distribution of these BMPs are shown in Appendix 2.

SMB 3-05 Ashland Avenue

This outfall discharges runoff from the Ashland sub-watershed which is entirely located within Santa Monica city limits. Land use in this 196 acre watershed consists primarily of single and multi-family residential properties, with approximately 11% of the land in the sub-watershed occupied by commercial

properties. The outfall is located on Santa Monica State Beach approximately 20 feet from the high tide line and approximately 1300 feet southwest of the western terminus of Ashland Avenue. The County of Los Angeles is the lead agency with respect to the operation and maintenance of the stormwater system that drains to this outfall. All runoff from this sub-watershed flows to the outfall in a southwesterly direction. The average dry weather flow through this storm drain is approximately 36,000 gpd with a maximum flow of approximately 44,000 gpd.

The County of Los Angeles completed construction of a low-flow diversion for this outfall on May 3, 2006. The diversion is located at 103 Ashland Avenue near the intersections with Neilson Way. This is approximately 1500 feet northeast of the outfall location. The County of Los Angeles reports that the diversion became operational on June 10, 2006 and operated through the end of the 2007 dry weather period, with the exception of the period between April 1 and April 27, 2007 when it was not operating.

The NOV reports one violation during 2006 on October 11, 2006 and violations on three days in 2007 on July 31, 2007, September 15, 2007 and October 26, 2007. All of these violations were due to exceedances of the single sample limits for either Total Coliform, Fecal Coliform, Enterococcus, or the Fecal:Total Coliform Ratio. Because the outfall is located within 20 feet of the shoreline, there is typically no ponding of water in this area. Although the County reports that the low-flow diversion was operating on each day that these violations occurred, the city does not have photographic or written records of the condition of the outfall site on the days of the violations to verify that there was no flow from the outfall at the time these violations occurred. The source of the violations at this site is unknown, but not expected to be related to urban runoff being discharged from the outfall.

On July 31, 2007, levels of Total Coliform exceeded 13,000 MPN/100ml at the Ashland Avenue, Rose Avenue, and Windward Avenue outfalls. Similar spikes in Total Coliform were recorded on August 1, 2007 at Ballona Creek and on August 2, 2007 at Windward Avenue. No other violations were recorded at these locations for several weeks either before or after these spikes. While the source is unknown, it is possible that the spikes in bacterial count at each of these beach sites are related – possibly from an offshore source, or from naturally occurring beach wrack. Neither the City of Santa Monica nor the City of Los Angeles has reports of a sewage spill during that time period.

In order to reduce the total amount of runoff reaching the outfall and to reduce the pollutant load in the runoff, 51 BMPs have been constructed by the City and by private residents (in compliance with a City ordinance) within the Ashland sub-watershed. These BMPs include a large infiltration project at SM Fire station #2, construction of a “beach greening” infiltration project in a beach parking lot, a CDS unit, catch basin screens and filters, infiltration pits, permeable paving, cisterns and bio-filters. Another large infiltration and treatment project is planned

for Bicknell Avenue and is expected to be completed in 2009. The type and distribution of these BMPs are shown in Appendix 2.

SMB 3-06 Rose Avenue

The outfall of this drainage site is located within the City of Los Angeles, however the County of Los Angeles is the lead agency with regards to the operation and maintenance of the storm drain system and low-flow diversion in this drainage basin. Dry weather discharge into the Rose Avenue drainage basin from Santa Monica drains towards the southeast via sheet flow and via the 23rd Street and Sunset Avenue storm drain outlets of the Airport sub-watershed basin; from the 16th Street storm drain outlet of the 16th Street sub-watershed; and from the Fredrick Street and 5th Street outlets from the Lincoln sub-watershed. These three sub-watershed areas are comprised of primarily single family and multi-family residential properties with a minor amount of commercial land uses. The total area of the three sub-watersheds is approximately 922 acres. These three sub-watersheds represent approximately 65% of the Rose Avenue drainage basin.

The Rose Avenue outfall is located on Venice Beach to the west of the terminus of Rose Avenue. The outfall is approximately 350 feet from the surf zone. The County of Los Angeles completed construction of a low-flow diversion for this storm drain system on June 14, 2005. The diversion is located at 300 Rose Avenue at the intersection of 5th Street in Venice. This is approximately 3500 feet northeast of the outfall. The low-flow diversion became operational on June 14, 2005 and the County of Los Angeles reports that it remained operational through the entire 2006 and 2007 dry weather periods.

The NOV reports violations on two days during 2007 on June 19, 2007 and July 31, 2007 for exceedances of single sample limits for Total Coliform, Fecal Coliform and/or Enterococcus. Although the County reports that the low-flow diversion was operating on each day that these violations occurred, the city does not have photographic or written records of the condition of the outfall site on the days of the violations to verify that there was no flow from the outfall at the time these violations occurred. The source of the violations at this site is unknown, but not expected to be related to urban runoff being discharged from the outfall. As noted above, it is possible that the source of the violation on July 31, 2007 is due to an offshore source or from naturally occurring beach wrack.

In order to reduce the total amount of runoff reaching the outfall and to reduce the pollutant load in the runoff, 277 BMPs have been constructed by the City and by private residents (in compliance with a City ordinance) within the Airport, 16th Street, and Lincoln sub-watersheds. These BMPs include large infiltration projects at Clover Park and Airport Park, porous parking lots, catch basin screens and filters, infiltration pits, permeable concrete gutters, cisterns and bio-filters. The type and distribution of these BMPs are shown in Appendix 2.

The cities of Los Angeles and Santa Monica are collaborating on a joint effort to collect dry and wet weather runoff from much of the watershed that feeds the Rose Avenue storm drain outlet. The Penmar Water Quality Improvement & Runoff Use Project is intended to collect runoff from 1,460 acres, over 800 acres in the City of Santa Monica, for treatment, infiltration and possible use for irrigation. Presently, the project is a Los Angeles Proposition O project, and the City of Santa Monica has allocated funds from its Clean Beaches Measure V fund to contribute to this project. Santa Monica's drainage contribution to this project includes three city sub-watersheds. Treated runoff will be used at the Penmar Recreational Park and Golf Course. It is anticipated that work on this project will begin in 2009.

SMB 3-07 Brooks Avenue

The outfall of this drainage site is located within the City of Los Angeles, however, the County of Los Angeles is the lead agency with regards to the operation and maintenance of the storm drain system and low-flow diversion in this drainage basin. There are no direct storm drain connections from the City of Santa Monica into the Brooks Avenue drainage basin. The only possible dry weather discharges that could occur from Santa Monica into this basin would be via surface flow, however, it is unlikely that any appreciable runoff ever reaches the Brooks Avenue outfall from Santa Monica.

The Brooks Avenue outfall is located on Venice Beach to the west of the western terminus of Brooks Avenue. The outfall is approximately 200 feet from the surf zone. The County of Los Angeles completed construction of a low-flow diversion for this storm drain system on April 15, 2001. The diversion is located at 314 Brooks Avenue in Venice. This is approximately 1500 feet northeast of the outfall. The low-flow diversion became operational on April 15, 2001 and the County of Los Angeles reports that it remained operational through the entire 2006 and 2007 dry weather periods.

The NOV reports violations on three days during 2007 on May 21, 2007, June 25, 2007 and July 30, 2007 for exceedances of single sample limits for Fecal Coliform, Enterococcus and/or Fecal:Total Coliform ratio. Although the County reports that the low-flow diversion was operating on each day that these violations occurred, the city does not have photographic or written records of the condition of the outfall site on the days of the violations to verify that there was no flow from the outfall at the time these violations occurred. The source of the violations at this site is unknown, but not expected to be related to urban runoff being discharged from the outfall.

SMB 3-08 Windward Avenue

The outfall of this drainage site is located within the City of Los Angeles, and the City of Los Angeles is the lead agency with regards to the operation and

maintenance of the storm drain system and low-flow diversion in this drainage basin. There are no direct storm drain connections or surface flows from the City of Santa Monica into the Windward Avenue drainage basin.

The Windward Avenue outfall is located on Venice Beach to the west of the western terminus of Windward Avenue. The outfall is directly adjacent to the surf zone. The City of Los Angeles completed construction of a low-flow diversion for this storm drain system on June 10, 2003. The diversion is located at the intersection of Windward Avenue and Main Street in Venice. This is approximately 2000 feet northeast of the outfall. The low-flow diversion became operational on June 10, 2003 and the City of Los Angeles reports that it was fully operational at the time of the violations noted below.

The NOV reports violations on three days during 2007 on July 30, 2007, August 2, 2007 and October 23, 2007 for exceedances of single sample limits for Total Coliform, Fecal Coliform, and/or Fecal:Total Coliform ratio. Although the City reports that the low-flow diversion (see Table 5 below) was operating on each day that these violations occurred, the city does not have photographic or written records of the condition of the outfall site on the days of the violations to verify that there was no flow from the outfall at the time these violations occurred. The source of the violations at this site is unknown, but not expected to be related to urban runoff being discharged from the outfall. As noted above, it is possible that the source of the violation on July 31, 2007 is due to an offshore source or from naturally occurring beach wrack.

Table 5 – SMB 3-08 Windward Avenue Observations

Violation Date	Diversion Status	Observation at Outfall
07/31/2007	Fully operational No interruption	Moderate amount of beach refuse, large amount of ocean debris, moderate amount of seaweed, small amount of tar, 5 to 10 bathers, 1 to 5 animals/birds on the shoreline, sea conditions: waves 2.0 feet height
08/02/2007	Fully operational No interruption	Small amount of beach refuse, large amount of ocean debris, small amount of seaweed, 5 to 10 bathers, 5 to 10 animals/birds on the shoreline, sea conditions: waves 0.5 feet height
10/23/2007	Fully operational No interruption	Large amount of beach refuse, moderate amount of ocean debris, large amount of seaweed, small amount of tar, 1 to 5 animals/birds on the shoreline, sea conditions: waves 2.0 feet height

Source: City of Los Angeles

SMB BC-01 Ballona Creek

The outfall of this drainage site is located within the City of Los Angeles, and the City of Los Angeles is the lead agency with regard to the operation and

maintenance of this outfall and the systems that contribute to it. No runoff from within Santa Monica city limits is discharged near the shoreline monitoring location for this site. Dry weather discharge into the Ballona Creek drainage basin from Santa Monica drains towards the east-northeast via sheet flow and via the Pearl Street storm drain outlet of the Centinela sub-watershed basin. This sub-watershed area contains a mix of residential, commercial and light-industrial land uses. The total area of the Centinela sub-watershed is approximately 204 acres. This sub-watershed represents approximately 0.3% of the Ballona Creek drainage basin.

In August 2006, the City of Santa Monica completed construction of the Westside Water Quality Improvement Project, working in cooperation with the City and County of Los Angeles. The project is a multi-stage treatment train to treat dry and wet weather urban runoff from the City of Santa Monica's Centinela sub-watershed, as well as runoff from parts of West Los Angeles, before it enters Ballona Creek. The BMP treatment train was installed in the parking lot of the City of Los Angeles' Mar Vista Park in West Los Angeles at Palms Boulevard and McLaughlin Avenue within the County of Los Angeles Public Work's Sawtelle storm drain system. This project is designed to remove a variety of gross and soluble pollutants including trash, debris, sediments, oil and grease, nutrients, heavy metals and organics, and it treats up to 3 cubic feet per second (cfs) of dry weather flow; it also treats up to 80% of Santa Monica's wet weather flow and a considerable portion of West Los Angeles wet weather flow in this watershed, up to 33 cfs. The system became operational in September 2006, just prior to the violation dates reported in the NOV.

The NOV reports violations on seven days in 2006 between September 14 and 20, 2006. All of these were for exceedances of the 30 day geometric mean limit for Total Coliform. The NOV reports violations on 112 days in 2007 between April 24, 2007 and October 25, 2007. The majority of these violations were for exceedances of the 30 day geometric mean limits for Total Coliform and Fecal Coliform, although there are numerous days, particularly in the period between June 22, 2007 and September 14, 2007, when exceedances for single sample limits for Total Coliform and Fecal Coliform were reported. The exact sources of the violations are not known to the City of Santa Monica. It is likely that there are multiple sources within the watershed originating from upstream sources (located in the cities of Beverly Hills, Culver City, West Hollywood, Inglewood, Los Angeles and Los Angeles County). Much of this runoff originating upstream that enters the drainage system is untreated.

Conclusions

As noted throughout this report, the City of Santa Monica has proactively taken significant steps to address urban runoff pollution to ensure that human and environmental health and the water quality of Santa Monica Bay is protected. This report makes clear that the City of Santa Monica is diligently working to

comply with or exceed the terms of the LA MS4 permit and meet the RWLs established therein.

The City has worked diligently to ensure that urban runoff during dry weather periods does not reach Santa Monica Bay through the construction of diversion and treatment systems. At the sites where this is not solving the problem, most notably at the Santa Monica Pier, we are actively working to resolve the problem through the construction of structural and non-structural BMPs, large capital improvement projects, and outreach programs.

In addition to the current and planned activities outlined in this report, the City has developed a system for the collection and tracking of visual observations at each of the outfalls within our jurisdiction to assist in the identification of any potential violations in the future and to better respond to problems that may arise. Implementation of this data tracking began April 1, 2008.